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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/802,405	03/09/2001	Wolf-Dietrich Weber	02998.P013	5453

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EXAMINER

SIDDIQI, MOHAMMAD A

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 07/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/802,405

Applicant(s)

WEBER ET AL.

Examiner

Mohammad A Siddiqi

Art Unit

2154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-36 are presented for examination

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-4, 7 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention:

In claim 1, the phrase "data streams" lacks antecedent basis.

In claim 1, the phrase "a data transfer" lacks antecedent basis.

In claim 7, the phrase "transaction stream" lacks antecedent basis.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a

whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over House et al. (5,274,783) (hereinafter House) in view of Wills et al. (6,002,692) (hereinafter Wills).
6. As per independent claims 1,14, 20 and 31, House discloses a method for communicating data between functional blocks (see abstract), in a computing device, comprising:
 - establishing a thread identifier (fig 1, col 2, line 60), for each independent data stream between an initiator functional block and a target functional block, wherein a plurality of independent data streams exist between the initiator functional block and the target functional block, (fig 1, col 2, lines 34-67);
 - if the target functional block is unable to accept a data transfer from the initiator functional block (col 9, lines 10-25), the target functional block issuing a busy signal identified by the thread identifier (col 9, lines 25-36);
 - the initiator functional block withholding issuance of data transfers associated with the thread identifier in response to the issued busy signal (col 9, lines 20-36), wherein data transfers not associated with the thread

identifier identified by the issued busy signal may be issued (col 9, lines 25-36); and

mapping a data flow from the initiator functional block to the target functional block to a thread indicated by the thread identifier (col 2, lines 24-67, col 6, lines 49-67);

House does not specifically disclose to meet a service guarantee on a per thread identifier basis.

However, Will discloses to meet a service guarantee on a per thread identifier basis (col 5, lines 19-34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Will with House because it would provide a guaranteed throughput

7. As per independent claims 2, and 21, House discloses the busy signal comprises a signal that is maintained active when the target functional block is unable to accept data transfers (fig 7, col 9, lines 10-36).

8. As per claims 3 and 22, House discloses teach the busy signal comprises a credit signal used to communicate a number of credits that indicate how many data transfers the target functional block can accept

(asserted and deasserted fig 7, col 5, lines 30-46,col 8, lines 34-67, col 9, lines 1-41).

9. As per claims 4 and 23, House discloses decrementing the number of credits for each active data transfer and incrementing the number of credits upon freeing up of resources for further data transfers (asserted and deasserted fig 7, col 5, lines 30-46,col 8, lines 34-67, col 9, lines 1-41).

10. As per claims 5 and 24, House discloses credit signal is generated by maintaining the signal in an active state for a number of clock cycles corresponding to the number of credits (asserted and deasserted fig 7, col 5, lines 30-46,col 8, lines 34-67, col 9, lines 1-41).

11. As per claims 6 and 25, House discloses the credit signal comprises a coded signal comprises a multi-bit coded signal indicative of the number of credits (asserted and deasserted fig 7, col 5, lines 30-46, col 10, lines 38-65).

12. As per claims 7, 17, and 26, House discloses at least one transaction stream between initiator functional blocks and the target functional blocks.

House does not specifically disclose determining service guarantees.

However, Wills discloses determining service guarantees (col 5, lines 19-34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Wills with House because it would provide a guaranteed throughput.

13. As per claims 8, 16, and 33 House discloses the initiator functional block stopping to send data transfers so that the target functional block receives no more than a determined number of data transfers after issuance of the busy signal (col 9, lines 10-65).

14. As per claims 9,15, 27 and 32, House discloses the target functional block issues a busy signal no more than a determined number of clock cycles after the target functional block determines that it has insufficient buffer space to receive data transfers from an initiator functional block (fig 1-3, (fig 1, col 2, lines 34-67, col 5, lines 20-33)

15. As per claim 10, House discloses the target device buffering the data transfers received after issuance of the busy signal until resources become available to service the buffered data transfers (fig 7, col 5, lines 30-46,col 8, lines 34-67, col 9, lines 1-41).

16. As per claims 11, 18,28, and 34, House discloses mapping the transaction stream to data channels of components between an initiator device and target device (col 2, lines 24-67, col 6, lines 49-67),

House is silent about the converting performance guarantees of selected data channels of the mapped transaction stream such that the guarantees of the data channels are aligned to be uniform in units, aggregating the guarantees of the data channels for the transaction stream. However, Wills discloses converting performance guarantees of selected data channels of the mapped transaction stream such that the guarantees of the data channels are aligned to be uniform in units, aggregating the guarantees of the data channels for the transaction stream (col 5, lines 19-34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Wills with House because it would provide a guaranteed throughput.

17. As per claims 12,19,29, and 35, House does not teach aggregating comprises a function selected from the group consisting of summing the guarantees of the data channels of the transaction stream, selecting the maximum guarantees of the data channels of the transaction stream, and selecting the minimum guarantees of the data channels of the transaction stream. However, Wills discloses aggregating comprises a function selected

from the group consisting of summing the guarantees of the data channels of the transaction stream, selecting the maximum guarantees of the data channels of the transaction stream, and selecting the minimum guarantees of the data channels of the transaction stream (QOS, fig 5-7, col 5, lines 5-34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Wills with House because it would provide a guaranteed throughput.

18. As per claims 13, 30, and 36, House does not teach service guarantees, performance guarantees, bandwidth guarantees, latency guarantees. However, Wills discloses the guarantees are selected from the group consisting of quality of service guarantees, performance guarantees, bandwidth guarantees, latency guarantees, maximum outstanding request guarantees and maximum variance in service latency guarantees (QOS, col 5, lines 19-34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Wills with House because it would provide a guaranteed throughput.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

U.S. Patent 5,845,154

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad A Siddiqi whose telephone number is (703) 305-0353. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A Follansbee can be reached on (703) 305-8498. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

MAS



JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
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